

SECTORAL AND HOME COUNTRY DISTRIBUTION OF FOREIGN DIRECT INVESTMENT IN INDONESIA

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Abstract

This study investigates the distribution of Foreign Direct Investment (FDI) across Indonesian economic sectors and home countries. Using descriptive statistics analysis of secondary data, the result shows that on average, FDI dominated the share of total investment, while domestic investment (DI) led the number of projects in Indonesia. FDI and DI mostly inflow to the chemical and pharmaceutical industry which is a part of manufacturing industries. The largest contributions of total FDI share come from Singapore and Japan. Investors from Japan reached the largest share of investment while investors from Singapore dominated the number of projects across Indonesian regions. Singapore reached the highest FDI share in Banten, Jakarta, Jawa Timur, Kalimantan Barat, Kalimantan Selatan, Kalimantan Tengah, Kepulauan Riau, Riau, Maluku Utara, Papua Barat, Sulawesi Utara, Sulawesi Barat, Sulawesi Selatan, and Sumatera Utara. Japan experienced the highest FDI in Jawa Barat and Jawa Tengah. This study can map the preference of investors from each home country. Investors from Australia and Mauritius mostly preferred to invest in the coal mining sector. Investors from Japan mostly preferred transport-related industries especially the industry of spare parts and accessories for four or more wheel motor vehicles. Investors from Singapore mostly selected telecommunication industries. Investors from South Korea mostly preferred to invest in plastic-related industries and processing industries. Some Investors from China invested in the electricity industry. Many investors from France also invested in the water supply sector. And Investors from the Republic of China mostly preferred to invest in the pulp, paper, and paperboard industry. The Indonesian Government needs to concern about the general characteristics of investors in home countries in attracting foreign investors. For policy purposes, knowing such characteristics provides scientific reasons for a government to have distinct strategies between different targeted home countries in order to attract foreign investors.

Keywords: Foreign direct investment inflow, Economic sectoral distribution, Home country preferences, Provincial distribution, Home country characteristics

INTRODUCTION

Geographically, Indonesia is a large country with total mainland and ocean area of 1,922,570 km² and 3,257,483 km², respectively. It has 34 provinces dispersed in six main regions namely Sumatra, Java, Nusa Tenggara and Bali, Kalimantan, Sulawesi, Maluku, and Papua. It is positioned between Asia and Australia continents and between two oceans, India and Pacific Oceans. This bridging position considerably has a strategic position to induce bilateral as well as multilateral international trade relations. In addition, Indonesia is also passed by one of the strategic straits in the world which is Malacca Strait Qu and Meng (2012). This strategic geographic position has the advantage to attract direct investment (Dunning, 2012).

Indonesia has a potential demographic advantage to generate its economic growth. Indonesia was one of the most densely populated countries in the world with its projected total population of

252.2 million and its growth of 1.22% in 2014¹. It was the fourth-largest population in the world after China, India, and United States, sequentially ². The proportion of productive age³ showed an increasing trend each year, from 59.78% in 1990 to 67.19% in 2016. A large population results in a potentially large domestic market that benefits from industrialization (Murphy, Shleifer, & Vishny, 1989). Both demographic and geographic advantage should be converted into successful economic growth as well as sustainable national prosperity.

Firms decide to invest in other countries by considering three factors: ownership, location, and internalization (OLI), or well known as OLI eclectic paradigm. OLI involves interdependency factors associated with cost-benefit analysis in cross-border activities (Dunning, 2014). Before investing abroad, a firm should consider the market competition against local firms, and other foreign firms⁴, already established in a host country. Foreign firms' ownership, such as technical capability, trademarks, and intellectual capital⁵ should offset some weaknesses belonging to new entry foreign firms, such as asymmetrical information related to local suppliers' network and local consumers' preferences.

Li, Quan, Stoian, and Azar (2018) identify two characteristics of foreign firms based on two general types of a home country's economic capability: developed countries and developing countries. They find that the ownership of firms from developed countries is characterized by having relatively high technology, marketing, and management strategies; the ownership of developing countries is characterized by having relational competence, adaptable capability with uncertainty, and institutional hardship. Another important factor for a firm's consideration before investing abroad is a location (Dunning, 2015). The location is related to market competition, in which firms can choose to avoid or to face market competition and should be treated as an endogenous factor of internalization or externalization process (Boschma, 2005; Cantwell, 2009; Dunning, 2009).

The other factor that influences firms hoping to invest abroad, based on an OLI eclectic paradigm, is internalization capability. This factor is related to the capability of the firms to optimize the ownership of the firms, and the location of the host countries that making production abroad more profitable than relying on exports or licensing to other independent firms (Buckley & Casson, 1976; Dunning, 1977; John H Dunning, 1981; Dunning, 1993, 2013; Helpman, Melitz, & Yeaple, 2004; Hennart & HL Slangen, 2015; Markusen, 1995). Doing business outside a home country is more preferable than licensing if firms produce new products with high technology intensity or mostly rely on technology transfer from their parent's firms (Chung, 2001; Davidson & McFetridge, 1984; Mansfield & Romeo, 1980; Markusen, 1995; Teece, 1977; Wilson, 1977).

Indonesian Government has targeted Rp 900 trillion investment in 2021. Knowing the general patterns of sectoral and home country distribution of FDI in Indonesia is expected to understand how much the role of each economic sector in attracting FDI and to understand how much the role of each economic sector in attracting FDI and to understand the characteristics of the home country. To know the general pattern of sectoral and home country distribution of FDI in Indonesia, this study addresses the questions; 1) How is the distribution of FDI inflow across sectors?; and which home countries significantly contribute to FDI inflow across sectors and provinces?

1 The population number data is the result of Indonesia Population Projection 2010-2035. It is obtained from Statistik Indonesia 2017 yearly book provided by BPS. Meanwhile, population growth in 2014 is taken from <http://data.worldbank.org>

2 The data is taken from <http://data.worldbank.org>

3 According to OECD the productive age is between 15 and 64

4 In this study foreign firms refer to the foreign direct investment enterprises.

5 The term intellectual capital, introduced by Stewart and Ruckdeschel (1998), explains intangible assets of firms. Intellectual capital is defined as the knowledge to transform raw materials into some more valuable products. The forms of intellectual capital is not only about the talent or the skills of the labourers, but also the capability to make a good relationship between workers and consumers.

Methods

The data used in this study is secondary data, mainly in the periods of the years 2010 to 2015, gathered from the Indonesian Central Bureau of Statistics (BPS). This study uses descriptive statistics to describe the sectoral and home country distribution of FDI inflow in Indonesia. In analyzing the data, this study compares the distribution of investment value and projects' numbers between FDI inflow and domestic investment inflow across economic sectors. Such comparison is also used to know the contribution of FDI and domestic investment on total investment in each economic sector. To answer the second research question, this study takes the highest investment value of each home country in each province and takes the three largest sectors with the highest investment value of each home country.

The scope of this study is describing the distribution of FDI inflow across economic sectors and home countries. This study does not investigate the determinant factors of FDI inflow in Indonesia and does not analyze FDI inflow in each sector or

Results and Discussion

Foreign Direct Investment (FDI) is the investment from a direct investor which is a resident in one economy to a direct investment enterprise which is a resident in another economy other than that of the direct investor to have the long-term strategic relationship and lasting interest between the direct investor and direct investment enterprise. The lasting interest can be achieved through having voting power at least 10% of the management of direct investment enterprise. Voting power means that direct investors have the right to influence the management of the enterprise and keep its lasting interest. The kind of foreign direct investment enterprise can be in the form of subsidiaries (having at least 50% of voting power), or in the form of associates (having between 10% and 50% of voting power) or in the form of branch or quasi-corporations in which 100% are owned by direct investment enterprises' parents (OECD, 2008).

The benefit of FDI is to create a stable and long-term connection between direct investors and direct investment enterprises among countries which can be achieved by having direct control of the management of the enterprise in host economies. FDI benefits the economy of host countries if the policies of host economies are appropriate. The benefits include opening access to an international market, improving the technological development of host countries, and developing labor and financial sectors. There are several kinds of direct investors. Direct investors can be an ultimate controlling parent or intermediate parent of an enterprise. The former means the parent of a non-resident enterprise and the latter means the enterprise which is owned not only by the ultimate controlling parent of an enterprise but also by another non-resident direct investment enterprise (OECD, 2008).

Foreign firms will have motivations to invest abroad by comparing economic factors in their home country and host country including market size and labor cost. Furthermore, each FDI home economy also considerably has different characteristics in terms of geographical, cultural, political, financial, environmental, and technological factors (Brunnermeier & Levinson, 2004; John H. Dunning, 1981; Zeng & Tan, 2011). By knowing the foreign firms' FDI home economies' characteristics, the government of host countries can make an appropriate specific strategy to increase inward FDI by focusing on specific countries which have supporting characteristics.

FDI Inflow across Indonesian Economic Sectors

There are 13 economic sectors in Indonesia consisting of food crops and plantation; livestock; forestry; fishery; mining; manufacturing; electricity, gas and water supply; construction, trade, and

repair; hotel and restaurant; transport, and storage and communication. In the manufacturing sector, there are 12 industries in Indonesia including food; textile; leather goods and footwear; wood; paper and printing; chemical and pharmaceutical; rubber and plastic; non-metallic mineral; metal; machinery and electronics; medical precision and optical instrument, watches and clock; and other industries (BPS 2016).

Of all economic sectors, the manufacturing sector has dominated the annual FDI inflow between 2010 and 2015. The manufacturing sector has accepted a total FDI inflow of US\$ 439.546 billion or 50% of the total FDI inflow. The highest FDI inflow in this sector occurred in 2013, with a total value of US\$112.736 billion. Other sectors that have relatively large FDI inflow are electricity, gas and water, mining, and hotel and restaurant. The sector of electricity, gas and water supply has a total FDI inflow of US\$125.264 billion or 14% of total FDI inflow; this is followed by the Hotel and restaurant, and mining sectors reaching US\$78.292 billion and 75.193 billion, respectively. The sector that has the least FDI inflow is the fishery, with US\$ 913 billion.

The chemical and pharmaceutical industry has received the highest FDI inflow of US\$166.177 billion or 38% of total FDI inflow in the manufacturing sector, between 2010 and 2015, followed by motor vehicle and other transport equipment industries, that received FDI US\$ 92.873 billion. The other sectors that received a relatively large FDI inflow are the metal, machinery, and electronic industry and food industry, receiving US\$74.180 billion and US\$ 29.754 billion, respectively. The industry that has received the least FDI inflow across manufacturing industries is wood, with US\$ 1.340 billion.

Of all economic sectors, manufacturing has dominated with 168,168 projects or 43% of total projects between 2010 and 2016. The other sectors that have relatively high numbers of FDI projects are trade and repair, and hotel and restaurant, having a proportion of 19% and 15%, respectively. The livestock sector has the least number of FDI projects during this: 1,572. The chemical and pharmaceutical industry has dominated the number of FDI projects with around 44 thousand projects, or 31 % of the total number of FDI projects. The metal, machinery, and electronic industry sector has experienced relatively large numbers of FDI projects of around 20 thousand projects or 20% of total FDI projects.

Foreign Investors in Indonesia

This section describes home countries of FDI across sectors based on the number of projects and the total value of FDI inflow. most FDI projects in Indonesia between 1991 and 2016 come from Asian countries. Singapore dominated the total number of projects of 11,028, followed by Japan and South Korea, with the total numbers of 8,411 and 8,049, respectively. These countries form 49% of the total FDI projects in Indonesia. Other countries in the top 15 are Malaysia (3,559 projects), China (3,232), British Virgin Islands (2,431), Netherlands (1,908), Australia (1,905), Hongkong (1,893), USA (1,601), United Kingdom (1,601), Taiwan (1,540), India (982), Germany (960), and France (856).

In terms of FDI value, Asian foreign investors still dominate FDI inflows to Indonesia (BKPM 2017). The total investment of the top 15 home countries from Asia between 1991 and 2016 reached the value of around US\$370 billion or 55% of total foreign investment. Among Asian countries, Japan and Singapore contribute the highest proportion of total foreign investment, 36% and 9.2, respectively. European countries listed in the top 15, including the British Virgins Islands and the United Kingdom; USA reached the total foreign investment of US\$ 232 billion or 35% of total foreign investment. Among European countries and the USA, the British Virgin Islands reached the highest share of 23% of total foreign investors. The other countries from Asia and Europe listed at

the top 15 of the highest investing countries in Indonesia are Germany (3.3%), Netherlands (2.7%), Thailand (1.54%), Malaysia (1.4%), Hongkong (1.1%), Australia (0.55%), and China (0.52%). Two countries from Africa listed at the top 15 are Liberia (4.6%) and Mauritius (0.9%).

Foreign Investors across Indonesia Manufacturing Industries

Advanced countries, such as Japan, Germany, and the US, mostly invest in motor vehicles and other transport equipment in Jawa Barat province. Meanwhile, FDI from developing countries including Jordan, Malaysia, Saudi Arabia, Iraq, Turkey, The Philippines, India, Brunei Darussalam, Afghanistan, Uzbekistan, Bangladesh, Egypt, and Nigeria mostly invest in chemical and pharmaceutical, food, textile, and wood industries located in Java and Sulawesi Islands. Other countries, such as Australia and New Zealand mostly invest in chemical and pharmaceutical, and food industries located in Kalimantan Timur and Jawa Barat. The countries from Africa, such as Nigeria and Egypt, mostly invest in textile and wood industries. The countries from American Continent outside the US, such as Canada and Argentina, mostly invest in food and leather goods and footwear industries located in Banten and Jakarta provinces. Investors from Europe and the United Kingdom outside Germany, Luxembourg, Norway, Sweden, Russia, and the Czech Republic mostly invest in chemical and pharmaceutical, food, and rubber and plastic industries located in Java and Sulawesi Islands.

Foreign Investors across Indonesian Provinces

Each province has different characteristics that influence FDI location decisions, and foreign investors from different countries have different preferences when choosing a province for investment. Mapping the distribution of the home country of FDI across Indonesia provinces is will provide information about which home country characteristics dominate FDI inflow in each province. The British Virgin Islands dominated the share of investment in Aceh, Bali, Daerah Istimewa Yogyakarta, and Gorontalo. Singapore reached the highest FDI share in Banten, Jakarta, Jawa Timur, Kalimantan Barat, Kalimantan Selatan, Kalimantan Tengah, Kepulauan Riau, Maluku Utara, Papua Barat, Sulawesi Utara, Sulawesi Barat, Sulawesi Selatan, and Sumatera Utara. Japan experienced the highest FDI in Jawa Barat and Jawa Tengah. UK reached the highest proportion of FDI in Bengkulu and Sulawesi Tengah. Australia dominated FDI inflow in Kalimantan Timur. Malaysia experienced the highest FDI in Kalimantan Utara and Kepulauan Bangka Belitung. South Korea reached the highest FDI in Lampung, Maluku, and Sulawesi Barat. The Netherlands reached the highest FDI in Nusa Tenggara Barat. Canada, USA, and China experienced the highest FDI in Sulawesi Selatan, Papua, and Sulawesi Tenggara, respectively. The British Virgin Islands mostly invested in Bali. Meanwhile, investors from Singapore, Japanese, and the UK mostly invested in Jakarta, Jawa Barat, and Sulawesi Tengah, respectively.

If this result is associated with economic corridor development in which each region or island has specific sectors to be developed, the investors from each home country have an interest in a specific corridor or economic sector and can contribute to developing such corridor and economic sector.

Telecommunication-related sectors become the most favorite sectors for investors especially from Singapore, Netherlands, Malaysia, Hongkong, Mauritius, and France. The basic chemical industry is another favorite sector for foreign investors. Most investors in the basic chemical industry came from Thailand, Australia, the United Kingdom, Germany, and Japan. Metal-related sectors also become destination sectors for foreign investors. Investors from the British Virgin Islands, Netherlands, China, France, and India selected metal-related sectors for their business in Indonesia. Other favorite economic sectors are food-related industries (British Virgin Islands, Liberia, USA, the

United Kingdom, Thailand, and Malaysia), garment-related industries (South Korea, India, and the Republic of China), coal mining sector (Australia, Mauritius, and India). This study also shows that investment in the sectors categorized as high technology level mostly comes from Japan, the USA, and Germany.

This study can map the preference or interests of investors from each home country. Investors from Australia and Mauritius mostly prefer to invest in the coal mining sector. Investors from Japan mostly prefer transport-related industries especially the industry of spare parts and accessories for four or more wheel motor vehicles. Investors from Singapore mostly select telecommunication industries. Investors from South Korea mostly prefer to invest in plastic-related industries and processing industries. Some Investors from China invest in electricity industries. Many investors from France also invested in the water supply sector. And Investors from the Republic of China mostly prefer to invest in the pulp, paper, and paperboard industry.

CONCLUSION

FDI in Indonesia is dominated by the manufacturing sector followed by electricity, gas and water supply sector, mining sector, and hotel and restaurant sector. The domination of manufacturing sector includes the number of business projects or companies established by foreign investors. The proportion of the number of FDI projects in the manufacturing sector during the periods of years from 2010 to 2015 is around 43%, almost half of the total project numbers. Of the manufacturing sector, the chemical and pharmaceutical industry has received the highest FDI share followed by motor vehicle and other transport equipment industries, and metal, machinery, and electronic industries.

Investors from Singapore, Japan, and Korea have dominated the share of FDI inflow in Indonesia. In terms of the project numbers, investors from Japan, British Virgin Islands, and Singapore was the most contributors for FDI projects. Most FDI from Japan and South Korea inflows to Jawa Barat and Banten. Meanwhile, FDI from Singapore mostly inflows to Sumatera Selatan. Other countries outside Asia that contribute significantly to FDI share in Indonesia are the United Kingdom and Australia where they mostly invest in Sulawesi Tengah and Kalimantan Timur, respectively.

Investors from a certain home country prefer to invest in certain sectors or industries. Investors from Japan mostly invested in transport equipment and accessories related sectors. Investors from Singapore mostly preferred telecommunication related sectors. Investors from South Korea mostly prefers other plastic goods and garment industries. Meanwhile, investors from Australia and China mostly invested in coal mining sector and metal related sectors, respectively. The preferences of investors from each home country shows the unique characteristics of investors' preference from each home country. The study shows that the investment in the sectors with high technology level including transport and telecommunication sectors mostly come from Japan and Singapore.

The results of this study recommend that the Indonesian Government needs to concern about the general characteristics of investors in home countries in attracting foreign investors. For policy purposes, knowing such characteristics provides scientific reasons for a government to have distinct strategies between different targeted home countries in order to attract foreign investors.

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